monteLLTB

Description

We embed the `vd2020` code (available **here**) into `montepython` (available **here**) to create `monteLLTB`, an explorator of the ΛLTB model's parameter space. Taking advantage of likelihood and sampler structure of `montepython` we include the ΛLTB cosmology by modifiying the likelihood computation. Precisely, we include a call for `vd2020` into the function `compute_lkl` in `sampler.py`, thus the ΛLTB cosmology is computed for each sampled point and passed by to the corresponding likelihoods. We also modify the likelihoods such they can receive and use the ΛLTB expresion. The output of `vd2020` is manage by `LLTB_functions.py` which returns the ΛLTB functions. In addition, we have also modified `class` (available **here**) to recognized the LTB parameters (δ_0 and z_B) as cosmological parameters.

Prerequisites

- CLASS: Cosmic Linear Anisotropy Solving System
- Monte Python (version >= v3.3.0) with the Planck 20218 likelihoods
- scikit-learn

Installation

To install monteLLTB you should fisrt compile the `vd2020` following the instructions on `vd2020/README.PDF`. Once `vd2020` is installed you should modify `montepython` by doing:

```
cp -r montepython_files/* /path-to-your-montepython/
```

then modify the file `default.conf.template` to include the path to your `vd2020` installation (besides the path to `class` and `clik` likelihoods). Set `default.conf.template` as your default configuration.

Repeat the procedure for `class` by doing:

```
cp -r class_files/* /path-to-your-class/
```

Compile `class` again.